

the application on September 16, 1999 and no additional IDS had been filed to date.

III. Claim Objections

Claims 4 to 9, 20 and 21 have been amended in order to delete the expression "characterised in that" and thus overcome the Examiner's objection.

IV. Claim Rejection – 35 USC § 112

The Examiner's rejections of Claims 20 and 21 have been considered and these Claims have been cancelled. New Claims 22 to 24 have been introduced and are directed to subject matters substantially similar to those of former Claims 20 and 21.

New Claim 22 specifies that a scrim (backing fabric) can be juxtaposed to the batt of fibres prior to being needlefelted. Support for this Claim can be found on line 6 to 9 of page 11. Also, Figure 3 shows a scrim 14 being juxtaposed to the batt of fibre 13.

New Claim 23 specifies that a needling step is carried out on the batt of fibres before it is juxtaposed onto the backing sheet. This is supported in lines 15 to 20 of page 10 of the specification and corresponds to the subject matter of former Claim 22.

New Claim 24 corresponds to the subject matter of former Claim 21.

It is believed that these new Claims fulfil the requirements of section 112. In particular the term pre-needling is not present in any of new Claims 22 to 24.

V. Claim Rejections - 35 USC § 103

In addition to the amendment carried out to overcome the Examiner rejection set forth in paragraph 3 of the Office Action and discussed above, Claim 4 has been further amended in order to further distinguish over the prior art. More particularly it is now specified that the needles penetrate **the surface** of the batt of fibres at different angles. This amendment is supported for example in Figure 2 which schematically represents the needle paths of the needles.

None of the prior art documents disclose a needlefelt for ball covering as now claimed in Claim 4. In particular Zocher discloses the manufacture of a needled felt, preferably through the use of curved, barbed needles which penetrate the web of fibres at an angle which is non-perpendicular to the web's surface (see Figures 2 and 3). However it is submitted that the angle of penetration of the surface of the batt of fibres is always the same. By contrast the felt of the Claim 4 is needlepunched by barbed needles which penetrate the surface of the batt of fibres according to a plurality of angles. Figure 2 of Zocher represents another embodiment using two needleboards having straight needles arranged to needle the fibre web from mutually opposite sides of the web. This embodiment comprises curved fibre web supporting rollers (shown as items 91, 92, 93, 94 and 95 in Figure 2). However it does not

disclose curved needleboards but only flat ones (shown as 96 in Figure 2). In this embodiment too, the angle of penetration of the web's surface is always the same.

Meeks relates to a method of manufacturing a tennis ball felt wherein two non-woven layers are needlepunched together, preferably through a scrim fabric (see column 2, lines 14-20). It does not disclose nor suggest providing needles which penetrate the surface of the web at a plurality of angles.

Therefore the method of needlepunching taught by Zocher is different from the one of the invention as now claimed and its combination with Meeks would not result in the needlefelt of amended Claim 4.

As mentioned in the specification (for example, page 11, lines 27 to 32 and page 13, lines 8 to 10) the penetration of the batt of fibres' surface (and thickness) by the needles at varied angles allows a much higher entanglement rate of the fibres without excessive consolidation of the fabric.

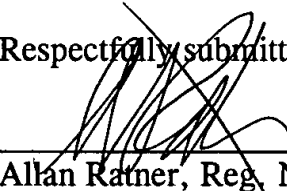
V. New Claim

A new Claim 25 is introduced, this claim relating to a needlefelt wherein the fibre density of the needlefelt varies across its thickness. This characteristic is supported in lines 5 to 9 of page 12 and in lines 15 to 18 of page 13 of the description. The variation of fibre density is also illustrated on page 2 of the drawings which shows a prior art felt (Figure 4) having a uniform fibre density and a felt of the invention (Figure 5) having a higher fibre density at its base. Such needlefelt having a non-uniform fibre density is particularly suitable

to be wrapped around a ball and thus overcomes the lack of flexibility of prior art felts mentioned in lines 9 to 21 of page 5.

The applicant believes the present application is now in condition for allowance and early and favorable notification to that effect is solicited.

Respectfully submitted,



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VERSION WITH MARKINGS TO SHOW CHANGES MADE**IN THE CLAIMS:**

1 4. (Amended) A ~~needle-felt~~ needlefelt for a ball covering, said
2 needlefelt ~~being characterised in that it comprises~~ comprising an entanglement of
3 fibres formed by the needlefelting of a fibre batt passed through a needlefelting
4 machine having at least one needleboard providing barbed needles to penetrate
5 the surface of said batt in a range of angles including a plurality of angles which
6 are non-perpendicular with respect to the surface of the batt, and ~~in that~~ wherein
7 said needlefelt is cut or otherwise shaped to form a blank adapted at least
8 partially to cover a ball.

1 5. (Amended) A needlefelt as claimed in claim 4,
2 ~~characterised in that~~ wherein during needling of the batt in the needlefelting
3 machine the batt is curved in the direction of its travel through the needlefelting
4 machine.

1 6. (Amended) A needlefelt as claimed in claim 5,
2 ~~characterised in that~~ wherein the needleboard is correspondingly curved.

1 7. (Amended) A needlefelt as claimed in claim 4,
2 ~~characterised in that~~ wherein the needlefelting machine comprises two
3 needleboards at respective locations which are mutually displaced along the
4 direction of travel of the batt through the needlefelting machine.

1 8. (Amended) A needlefelt as claim in claim 7, ~~characterised~~
2 ~~in that~~ wherein the two needleboards are respectively disposed to needle the batt
3 from mutually opposite sides of the batt.

1 9. (Amended) A needlefelt as claimed in claim 8 ~~and~~ wherein
2 the needlefelt incorporates a scrim, ~~characterised in that~~ and wherein the first of
3 said two needleboards in the direction of travel of the batt through the
4 needlefelting machine is disposed to needle the layered combination of batt and
5 scrim from the side opposite to the scrim.

Claims 20 and 21 have been cancelled.

Claims 22-25 have been added.